TESTIMONY OF DR. SUKH BASSI
KANSAS CITY INGREDIENT TECHNOLOGY
SUBJECT: TETRASODIUM PYROPHOSPHATE
September 16, 2002

I want to thank the National Organic Standards Board for allowing me to present this testimony on behalf of Kansas City Ingredients Technology (hereinafter KCIT) to support the petition for inclusion on the national list, Tetrasodium Pyrophosphate (hereafter TSPP).

TSPP is an analog of sodium phosphate and is used for buffering and conditioning during the processing of wheat gluten and this texturized wheat gluten is then used as an ingredient for making organic meat alternative products. TSPP is listed on the FDA's GRAS list and is an ideal processing material for organic products. It is presently being used in dairy substitute products, meat, poultry, cheeses, breads and cereals. No limit is placed on food use other than current good manufacturing practices. TSPP is used in small quantities at levels of 0.5%-3.5% in KCIT's proprietary process to produce this texturized wheat gluten. This texture is important since it gives a meat-like fiber. It must be pointed out that this texturized protein is then used at 10-12% level to make a finished consumable product, thus the level of TSPP in finished consumer product is even smaller. Currently no alternatives exist for the functional properties displayed by TSPP when used in small amounts in this proprietary process. Seitan is a product made by mixing gluten with water and spices. It does not generate any fibers and has poor sensory characteristics. Other materials have to be used at three to four times the amounts of TSPP, which gives distortions in color and taste. Furthermore, commonly used and accepted alternative materials have been tried and offer no serious processing advantage and none are approved for organic processing. The following ingredients were tested and their processing effects were as follows:

Ingredient Name	**Process Effects**
NaOH	Product shredded and turned smelly and dark
Sodium Bicarbonate	Product shredded, CO2 released and acts like popcorn popping
Sulfur	Smell, FDA restricted
Bisulfites	Allergen, FDA restricted
Sulfites	Allergen, FDA restricted
Metabisulfites	Allergen, FDA restricted
Sodium Phosphate	Higher level of use, say 9 to 10% or more
Disodium Phosphate	Higher level of use, say 6 to 10% or more
Tetrasodium Polyphosphate	Higher level of use, say 9 to 10% or more
Sodium polyphosphate, STMP	Higher level of use, say 9 to 10% or more
Tetrasodium Pyrophosphate	Product flow smooth, good protein solubilization, pH buffering at lower levels, say 0.5%-3.5%

And as mentioned earlier, these materials reduce product quality, functionality, affordability and cause unwanted product discoloration and undesirable odor and fowl taste to these organic products. So, it can not be produced from a natural source and has no organic ingredients as substitutes.

TSPP not only improves the texture of this product; it also retains the digestibility characteristics. Texturized wheat protein has an excellent digestibility of 96%. It should also be emphasized that TSPP is not used as a manufacturing aid in the sense that it does not speed up the process but instead it is used to give the fine fiber texture as meat that allows the innovative organic food processors to enter into a rapidly growing food category and to fully utilize these unique high quality and functional organic protein ingredients to make healthy foods, i.e. meat alternatives and vegetarian prepared foods. Finally, in light of the above unique functional properties of sodium pyrophosphate, KCIT is requesting in this petition to expand the sodium phosphate category which is already on the approved NOSB list for dairy use only, to include milled and processed grains (especially wheat gluten) and TSPP be added to the sodium phosphate clause that is already approved.

Thank you.

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